Lab6

Programming Fundamentals CS130
Fall 2022   **Total=100**

1. Write a program that uses a priming read to prompt a user for a word. If the user enters a word, the program should print whether it has an even or odd number of characters using If -Else condition check.

   Tip: Find out the length of the word using word.length() function.

2. Write a program that will take as input three values for the length of the sides of a right triangle. The program should then determine if this set of numbers is a valid **Pythagorean triple** e.g. (3,4,5). Below are samples of input and outputs for this problem.

Enter the length of side a:3
Enter the length of side c:4
Enter the length of side hypotenuse:5
A triangle with side a of 3, side b of 4, and a hypotenuse of 5 is a right triangle.

Enter the length of side a:6
Enter the length of side c:8
Enter the length of side hypotenuse:15
A triangle with side a of 6, side b of 8, and a hypotenuse of 15 is not a right triangle.

3. Take values of length and breadth of a rectangle from user and check if it is square or not.

4. A student will not be allowed to sit in exam if his/her attendance is less than 75%.
   Take following input from user:
   Number of classes held
   Number of classes attended.
   And print
   percentage of class attended
   Is student is allowed to sit in exam or not.

5. Write a Java Program to swap two user input numbers using the third variable
   Output:
   Num1: 4
   Num2: 6
   before swapping : 4 6
   After swapping : 6 4

6. What is control structure? What are the differences between sequential and branching structure?

It is a structure that basically shows a flow between functions of a program. Sequential is line by line where as branching is when multiple values basically determine where you go next in a line of code.